

**REMARKS/ARGUMENTS**

Claims 1, 2 and 4-6 are present in this application.

Claims 1, 2, 5 and 6 were rejected under 35 U.S.C. §102(b) over U.S. Patent No. 5,817,958 to Uchida et al. This rejection is respectfully traversed.

Independent claim 1 defines, *inter alia*, a step of outputting a real time crack growth prediction according to the input water chemistry characteristics. Independent claims 5 and 6 define related subject matter. The Office Action seems to recognize that the Uchida patent lacks a specific disclosure of any such real time output; rather, the Office Action contends that “‘real time’ is interpreted to involve a delay and thus Uchida anticipates this feature since a delay must be present in any controlled system.” The present invention, however, embodies an ability to calculate rates that are directly related to real time crack growth behavior. The disclosed system allows a direct ability to process inputs and use them to calculate crack growth rates that will support immediate decisions at the plant. The models are used with the network to address immediate decisions that are critical to plant operation including, for example, environmental changes as well as plant decisions to shut down for inspection or to improve plant operation and thereby avoid damage. The data can also be used in the regulatory environment to support the prudence of these decisions.

The Uchida patent, in contrast, employs plant charts or “plant record information,” which imply long term compilation of data for future correlations. The methods are directed at developing residual life that employs such “plant charts” and degradation calculated from the charts. These imply correlation and reliance on experience instead of on real time instantaneous changes using sophisticated models for the component/plant conditions of interest. The latter

process embodied in the present invention relates to the capability to assess rapid changes in cracking characteristics.

The models used in the Uchida patent are correlative models. They do not discuss instantaneous modeling; rather they discuss the review of data on the context of “in-family or out of family” types of behavior. The approach in Uchida is directed at estimating the potential for long term degradation since it references incubation times as well as long term degradation. The Uchida patent discusses crack length, which also implies a comparison over a long time as opposed to a rate which is instantaneous and is applicable to assessing the behavior of known cracks at any given time of operation. The instantaneous assessment is important to decisions on real time plant operation, which is an important feature of the invention. Nowhere does Uchida remotely consider the possibility nor the need for real time crack growth rate calculations. Additionally, Uchida does not refer to the detail of the needed parameters that are used in real time calculations. (Applicants note that cracks were not allowed in Japan in this time frame, and therefore, Uchida’s long term assessment approach is consistent with the approaches used during that era.)

Applicants thus submit that Uchida lacks any teaching of outputting a real time crack growth prediction according to the input water chemistry characteristics as claimed. As a consequence, Applicants respectfully submit that the rejection is misplaced.

With regard to dependent claim 2, Applicants submit that this claim is allowable at least by virtue of its dependency on an allowable independent claim.

Reconsideration and withdrawal of the rejection are respectfully requested.

Claim 4 was rejected under 35 U.S.C. §103(a) over Uchida. The Uchida patent, however, does not provide any suggestion to modify its disclosure to encompass the subject matter

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wherein a real time crack growth prediction is output according to the input water chemistry characteristics as discussed above. Applicants thus respectfully submit that the rejection is misplaced. Withdrawal of the rejection is respectfully requested.

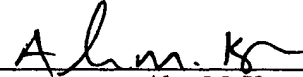
In view of the foregoing remarks, Applicants respectfully submit that the claims are patentable over the art of record and that the application is in condition for allowance. Should the Examiner believe that anything further is desirable in order to place the application in condition for allowance, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number listed below.

Prompt passage to issuance is earnestly solicited.

Respectfully submitted,

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